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Hepaticae from the Federal District, Mexico. I.

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The *Butler University Botanical Studies* journal was published by the Botany Department of Butler University, Indianapolis, Indiana, from 1929 to 1964. The scientific journal featured original papers primarily on plant ecology, taxonomy, and microbiology. The papers contain valuable historical studies, especially floristic surveys that document Indiana's vegetation in past decades. Authors were Butler faculty, current and former master's degree students and undergraduates, and other Indiana botanists. The journal was started by Stanley Cain, noted conservation biologist, and edited through most of its years of production by Ray C. Friesner, Butler's first botanist and founder of the department in 1919. The journal was distributed to learned societies and libraries through exchange.

During the years of the journal's publication, the Butler University Botany Department had an active program of research and student training. 201 bachelor's degrees and 75 master's degrees in Botany were conferred during this period. Thirty-five of these graduates went on to earn doctorates at other institutions.

The Botany Department attracted many notable faculty members and students. Distinguished faculty, in addition to Cain and Friesner , included John E. Potzger, a forest ecologist and palynologist, Willard Nelson Clute, co-founder of the American Fern Society, Marion T. Hall, former director of the Morton Arboretum, C. Mervin Palmer, Rex Webster, and John Pelton. Some of the former undergraduate and master's students who made active contributions to the fields of botany and ecology include Dwight. W. Billings, Fay Kenoyer Daily, William A. Daily, Rexford Daudenmire, Francis Hueber, Frank McCormick, Scott McCoy, Robert Petty, Potzger, Helene Starcs, and Theodore Sperry. Cain, Daubenmire, Potzger, and Billings served as Presidents of the Ecological Society of America.

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HEPATICAE FROM THE FEDERAL DISTRICT, MEXICO. I.*

By DOROTHY PARKER†

Although the Hepaticae are well represented in the flora of Mexico very few reports concerning them have been published. The scarcity of keys to the species, the difficulty in obtaining authentic specimens of the species that were described in early European publications, and the great variation in size and form of many of the species that have been collected make their classification difficult.

The liverworts reported below were collected in the Federal District which is located in the center of Mexico in the Central High Plateau, surrounded by the state of Mexico on the west, north and east, and by the state of Morelos on the south. The District occupies a segment of approximately 573 square miles that is irregular in shape located on the southwestern part of the Valley of Mexico and includes terrain which extends from the bed of the lakes on the valley floor to the heights of the surrounding mountains in the Sierra de Ajusco. The elevations range from 7,000 to more than 12,000 feet. A series of small streams drain the area, the majority of which are temporary. The drainage leads to canals of the series of lakes in the valley.

The climate is considered as subtropical of a high elevation type, however, considerable variation is encountered. Mexico City occupies much of the lower elevations in the area between 7,000 and 7,500 ft. and is semi dry with approximately 30 inches of rainfall during the months of May to October. The winter and spring are generally dry. At higher elevations there is heavier precipitation and lower winter temperatures. Meteorological data from the Desierto de los Leones at 9,660 ft. record an annual rainfall of approximately 50 inches. At this elevation and higher a dry, cold, definite winter season occurs.

In the lower part of the District the vegetation has been almost completely destroyed by the growth of the capital. Above the city

* The writer is indebted to Dr. Margaret Fulford, University of Cincinnati, Cincinnati, O., for verifications and corrections of the species reported.

† The Rockefeller Foundation, Mexico, D. F.

remnants of the pine-oak forest can be found above which is a wide belt of religious fir forest that has been protected in a National Forest area.

In spite of the heavy population in the Federal District (more than 3,000,000 according to the 1950 census) a surprisingly rich flora still exists. This report is the first of a series that has been started with the hope that over a period of years more information concerning the members and distribution of the Hepaticae of this area will result. All of the following were collected along the banks of a small stream in a protected ravine of the fir forest above the town of Contreras, D. F. The numbers following each species refer to the collection numbers of the writer.

Targioniaceae

Targionia hypophylla L. 701, 738

Rebouliaceae

Reboulia hemisphaerica (L) Raddi 731

Asterella sp? 708

Marchantiaceae

Marchantia polymorpha L. 704, 739, 740

Riccardiaceae

Metzgeria conjugata Lindb. 709, 720, 726

Metzgeria furcata (L) Dum. 707, 709, 719, 724

Metzgeria hamata Lindb. 727

Metzgeria Liebmanniana L. & G. 711, 719, 732

Metzgeria uncigera Evans 725

Metzgeria sp? 721, 728

Riccardia sp? 717, 718

Lophoziaceae

Lophocolea bidentata (L) Dum. 702, 703, 712, 713, 727, 736, 737

Lophocolea sp? 722, 723

Plagiochila sp? 720, 721, 735

Porellaceae

Porella platyphylla (L) Lindb. 710, 720

Lejeuneaceae

Dicranolejeunea incongrua (L. & G.) St. 716

Microlejeunea sp? 714, 715

Strepsilejeunea sp? 734

Anthocerotaceae

Anthoceros sp? 705, 729, 733